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ABSTRACT

The purpose of the study was to examine the relationship between life change and dropout behavior of adult continuing education students. The population used for the study consisted of 100 freshmen adult evening students at Tidewater Community College, Virginia. The adult students were divided into groups of low, medium, and high academic achievement expectancy based on their high school grades. During the first class sessions data on recent life change events were collected through the Social Readjustment Rating Scale. At the end of the quarter (five months later), dropout data for the population was obtained. Six hypotheses were tested and the statistical analysis of the data gathered revealed the following conclusions: no significant difference existed in mean life change scores among the adult students at the low, medium, and high academic risk populations; there was a significant relationship between the amount of life change in adult students and the frequency of their dropout behavior; and there were no significant differences in the frequencies of dropout behavior of adult students in low, medium, and high academic risk categories. Dropouts, regardless of academic risk category, had experienced significantly more life change than non-dropouts. The rating scale and a bibliography are appended. (Author/EC)

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ABSTRACT

THE INFLUENCE OF LIFE CHANGE ON DROPOUT BEHAVIOR OF ADULT CONTINUING EDUCATION STUDENTS

By

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B.A. Harpur College, 1954

M.A. New York University, 1961

Ed. S. The George Washington University, 1971

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A Dissertation Submitted in Partial Fulfillment of
the Requirements for the Degree of
Doctor of Philosophy

WALDEN UNIVERSITY

July, 1975

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Purpose of the Study:

The purpose of this study was to examine the relationship between life change and dropout behavior of adult continuing education students. This study attempted to answer the following question: "Is there a relationship between an adult's history of recent life changes which required coping behavior and his abandonment of a continuing education program, regardless of his academic ability expectancy?"

Procedure:

The population for this study were 100 freshman adult evening students enrolled in English 101 at Tidewater Community College, Virginia Beach, Virginia during the Fall, 1974 quarter. These adult students were divided into groups of low, medium and high academic achievement expectancy on the basis of their high school grades. During the first class sessions data on recent life change events was collected through the use of the Social Readjustment Rating Scale (SRRS). At the conclusion of the Winter 1974-1975 quarter, dropout data for the population was obtained from the Director of Continuing Education.

Findings:

1. There was no significant difference in mean life change scores between selected adult students in low, medium and high academic risk populations.

2. There was a significant relationship between the amount of life change in selected adult students in all academic risk categories and the frequency of their dropout behavior.

3. There were no significant differences in the frequencies of dropout behavior of adult students in low, medium and high academic risk categories.

Conclusions:

1. Dropouts, regardless of academic risk category, had experienced significantly more life change than non-dropouts.

2. There was no relationship between the academic risk category assigned and the amount of life change or the frequency of dropout behavior.

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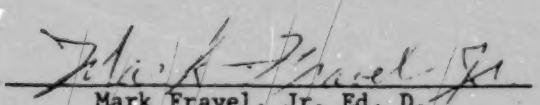

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This study is dedicated to the memory of the late Dr. Harry Grubb Detwiler, former Chairman, Department of Guidance and Counseling, School of Education, The George Washington University, who continues to serve as the model of a humanistic educator and scholar to his former student. I am also indebted to Dr. Scott Keahey, Counseling Psychologist, Veterans Administration Hospital, Waco, Texas for suggesting the need for the study, Dr. Franklin Patterson, President of Hampshire College for his advice on the research proposal for this study during my Walden University 1974 resident summer session, Dr. Mark Fravel, Chairman, Department of Curriculum and Instruction, School of Education, Old Dominion University and my dissertation adviser for his advice and enthusiasm for this project, and Dr. Harvey Thorstad of the Naval Education and Training Command, Pensacola, Florida, for his helpful suggestions on the statistics used in this study. This study could not have been conducted without the gracious cooperation of Mr. William Bridges, the Director of Continuing Education, Tidewater Community College, Virginia Beach, Virginia.

Above all, I am indebted to my wife, Nina Karin Garry, for her tolerance and love. The evenings and weekends spent in classes and in solitary study since September, 1968 represent countless hours which rightfully belonged to her and which can never be retrieved. It is hoped that this study, which is the final result of a long and shared

anxiety producing effort, will somehow, serve her as the first down-payment on a debt which I can never repay.

CHAPTER I

INTRODUCTION

Rationale for the Study

The question of why some students persist in continuing their education and why others drop out is still being asked in adult and continuing education programs. Generally, studies dealing with adult dropouts have focused on academic, intellectual and personality variables as possible causal factors for dropping out. However, measures of achievement, intellectual capacity and personality factors, when applied as predictive efforts, have only partially answered the question of why adult students drop out. There is a continuing need to study nonintellective variables (Sanford, 1970). Knoel (1966) contended that additional research must become involved not only with a student's personality but also with his environmental pressures.

In a study dealing with nonacademic and nonintellective variables as possible contributing factors to dropping out, the problem of which variable to study and how this variable may be measured is a challenge to the investigator. It would seem reasonable to study the factor of stress and anxiety in relationship to dropout behavior. However, many such studies have traditionally used scales and instruments which tend to measure dispositions to behave. There is a general tendency to confuse dispositional variables with response variables, or at least,

not to distinguish between them. Most of the previous dropout research has been limited because it has not involved actual episodes of stress producing events; it has been concerned, rather, with general tendencies to react to stress and anxiety as reflected by questionnaire responses which portray the ways a person sees himself or wishes to present himself to others. For example, some researchers feel that the coping processes tapped by such questionnaire measures as Taylor's (1953) Manifest Anxiety Scale (MAS) are not the same as those revealed by the Rorschach cognitive style measures (Lazarus, Averill, & Opton, 1974, p. 255).

This study aimed to contribute to a better understanding of the relationship between certain actual stress and anxiety producing events in a non-school environment and dropout behavior in adult students. It intended to provide an approach using reports of actual life events requiring coping behavior, in the hope that this approach may be useful in dealing with the problem of dropouts in adult and continuing education programs.

Statement of the Problem

The purpose of this study was to investigate the relationship between dropout behavior and amounts of coping behavior produced by recent life changes outside the academic environment with adult and continuing education students.

This dissertation attempted to answer the following question: "Is there a relationship between an adult's history of recent life changes which required coping behavior and his abandonment of a

continuing education program, regardless of his academic ability expectancy?"

Hypotheses

This study attempted to answer the above question by proposing the following null hypotheses:

Hypothesis 1: There is no significant difference in the amount of life change between selected adult students in low, medium and high academic risk populations.

Hypothesis 2: There is no significant relationship between the amount of life change in selected adult students in a low academic risk category and the frequency of their dropout behavior.

Hypothesis 3: There is no significant relationship between the amount of life change in selected adult students in a medium academic risk category and the frequency of their dropout behavior.

Hypothesis 4: There is no significant relationship between the amount of life change in selected adult students in a high academic risk category and the frequency of their dropout behavior.

Hypothesis 5: There are no significant differences in the frequencies of dropout behavior of selected adult students in low, medium and high academic risk categories.

Hypothesis 6: There is no significant relationship between the amount of life change in selected adult students and the frequency of their dropout behavior.

Significance of the Problem

The problem of dropouts in adult and continuing education programs is one which requires more attention. A great deal of emphasis is placed on helping children and adolescents with stresses caused by their academic as well as their nonacademic environment, with the employment of such specialists as guidance counselors, visiting teachers, special education teachers, social workers and medical personnel within school systems. Although J. Roby Kidd (1959, p. 45) pointed out that the adult's social and sexual responsibilities mark him off from the world of children as an individual with more and different experiences which are organized and perceived differently, adult learning experiences are often designed with the assumption that the learner will remain healthy, and economically, maritally, socially and occupationally secure while he is enrolled in a continuing education program. Thus, an adult who comes to an institution of learning with social, economic, occupational and family demands already imposed upon him by his history, is usually expected to cope with these demands and take on the additional burden of coping with the learning. Although there may be some help available to him with the academic portion of his responsibilities, adult and continuing education programs are usually unable to do much for an adult to help him with the stresses caused by divorce, death of a spouse, trouble with the boss, a heavy mortgage and other problems. This is reflected in the perceptions of adult part-time students surveyed by Bruker (1970). His survey indicated that the students felt that the functions

and services of a university are oriented almost entirely in terms of the full time students.

Limitations of the Study

1. This study was limited to a population of freshman adult evening students at Tidewater Community College, Virginia Beach, Virginia.

2. The researcher was requested to limit his survey by Tidewater Community College officials. Therefore, this study was limited to students enrolled in English 101, Communications Skills. This freshman course is designed for students enrolled in technical and vocational terminal curriculums leading to the Associate of Applied Science degree or a certificate. Students who intend to transfer to a four year college and earn an Associate of Arts or Science degree must enroll in a different freshman English course.

3. This study defines and delimits dropout behavior in a narrow sense by associating such behavior only with dropping out of a school environment. It is possible for an adult to value his studies to such an extent that he may persist in school but drop out of a marriage, a job, social life and give up other obligations in order to devote his energies to coping with the demands of the academic environment. This study does not directly measure the values and the persistance of the population being studied.

Procedures

The population for this study consisted of all freshman adult evening students enrolled in five sections of English 101,

Communications Skills at Tidewater Community College, Virginia Beach, Virginia during the Fall, 1974 quarter.

The population was divided into low, medium and high academic risk categories based on academic achievement ability expectancy as reflected by their high school grade point averages.

The population was administered the Social Readjustment Rating Scale (SRRS) at the beginning of the Fall 1974 quarter. This scale, developed by Thomas H. Holmes and colleagues (Holmes & Rahe, 1967) at the School of Medicine, University of Washington, consists of forty-two life events which are related to environmental stress. The accumulation of too many stress factors on the SRRS has been correlated by the researchers to the onset of medical problems, when such life events occur within a single year. Each SRRS questionnaire was scored and coded to show the respondent's academic risk category.

At the conclusion of the Winter 1974-1975 quarter, the names of all dropouts in the population were obtained from college officials and their academic risk categories were determined from the codes on their SRRS questionnaire. The data obtained was refined to adjust for those students who dropped out for such reasons as death, military or job transfers, or who did not meet the criterion for dropouts as defined in this Study.

Life events scores in each academic risk category were compared to each other to determine whether the difference in scores between categories were significant, to test the first hypothesis.

The frequency of dropout behavior for each academic risk category was computed and compared with the life events scores in each risk category to determine whether a significant relationship existed between the two variables, to test the second, third and fourth hypotheses.

The dropout frequencies in each academic risk category were compared to each other, to determine whether the differences in these frequencies were greater than those which could be expected by chance, alone, to test the fifth hypothesis.

Finally, the amount of life change in the population was related to the dropout frequency of the population to determine whether a significant relationship existed.

Tests of statistical significance included analysis of variance, t-tests for the differences between means, and chi square (x^2) for comparisons of observed and expected frequencies.

The study is divided into five chapters. Chapter I, "Introduction"; Chapter II, "Review of Related Literature"; Chapter III, "Research Procedure and Methodology"; Chapter IV, "Data and Analysis" and Chapter V, "Overview, Conclusions, Implications for Future Study and Summary."

Definition of Important Terms

For the purposes of this study, the following terms and their definitions were used:

Adult Student: (also referred to in this study as "student")--A person over the age of twenty-one, and enrolled in an evening or less than full time program of study leading to a degree or certificate.

Coping Behavior: A behavioral pattern which is perceived by the individual as facilitating adjustment to his environment for the purpose of attaining some goal.

Dropout (dropping out): An individual who registers for a school term in a credit program and who withdraws or is dropped from the official roster of the institution for any reason except death or transfer to another institution, or job relocation before completion of graduation requirements. Such an individual is considered a dropout whether his withdrawal occurs during or between regular school terms and whether or not he has completed a minimum amount of work.

Life Change(s): Those events listed in the Social Readjustment Rating Scale (SRRS) and requiring coping behaviors on the part of the person to whom the scale is administered.

Low, medium and high Academic Risk Categories (also referred to as "risk categories"): Classifications denoting the academic ability expectancy of a student to satisfactorily complete his program of learning and earn a degree or a certificate.

Setting of the Study

The Virginia Beach Campus of Tidewater Community College serves the City of Virginia Beach, Virginia, with a population of some 270,000. The college is devoted to serving the educational needs of its community and assumes a responsibility for providing the requirements for trained manpower through a cooperative effort with local industry, business, professions and government. Currently, some 3,998 students are enrolled, of which 2,600 are in evening courses. According to Mr. Al Hibbs, Senior Counselor, the average age of a Tidewater Community College student is 26 years and over 35 percent of the students are veterans. The dropout rate is approximately 20 percent. The college has recently moved from temporary quarters to a new $3,000,000 campus and provides a variety of educational opportunities for youth and adults beyond high school age. A strong counseling department is provided among other services to assist students with occupational, educational and personal problems. The Director of Continuing Education is in charge of the evening offerings and employs eight counselors. Programs of instruction are offered in 3 major areas, generally not extending more than two years beyond the high school level.

The occupational-technical education program is designed to meet the increasing demand for technicians, semi-professional workers and skilled craftsmen for employment in industry, business, the professions and government. Typical curriculum in the occupational-technical area lead to a certificate or Associate Degrees in Advertising Arts, Business Technology, Data Processing, Real Estate, Nursing, Police and Fire Science, and Recreation Leadership.

The college transfer education program parallels freshman and sophomore courses in the arts and sciences acceptable for transfer to four year institutions. These programs lead to an associate in Arts (AA) Degree in Liberal Arts or Music, or an Associate in Science (AS) Degree in Business Administration, Education, English or Science.

The general education courses encompass the common knowledges, skills and attitudes needed by each individual to be effective as a member of a family, a worker, a consumer and a citizen. Most of these are non-credit courses.

Tidewater Community College has an open door policy and is a division of the Virginia Community College System. The fees are minimal and the only prerequisite for requirements are prescribed for admission to the College Transfer Program. In this case, high school graduation is required and the Scholastic Achievement Test (SAT) must be taken.

CHAPTER II

REVIEW OF RELATED LITERATURE

Dropout Research

A review of literature indicated only a handful of studies dealing with dropout behavior of adult students. There is an absence of testable theory in the adult dropout area. Mezirow (1971) stated that "there are few more pervasively debilitating influences in the . . . field than the absence of a body of practically useful theory upon which priorities . . . can be predicated."

There are a number of studies in adult and continuing education which indicate that researchers have continued to search for plausible approaches to solving the adult student dropout problem. These studies have normally taken one of two approaches. The first approach consists of studying the reasons why adults drop out, usually by surveying the dropouts. Research of this type seems to be based on the availability of the dropout, therefore it is fairly scarce. However, this type of research is extremely useful in providing clues for studying causes for dropout behavior. Many adults attribute their dropping out to such life changes as health and job related causes (Casey, 1953), illness, childbirth and family problems (Ewigleben, 1959), work schedule conflicts, personal and family illnesses

(Bennet, 1968), illness, conflict with work schedules and child care problems (Hawkins, 1968).

The second approach does not study the dropouts directly. It is based on the notion that the trait of persistency is the opposite of dropout behavior. Persistency is a function of some kind of personality attribute or social value characteristic in this approach. Typical studies normally focus either on a description of the persister or on the difference between the characteristics of persister and the dropout. Most of these studies are applicable to fairly small populations and only tentative inferences may be drawn from them. Also, they insist on labeling a person who remains in school as a persister, but do not deal with the existence of equally socially undesirable dropout behavior on the part of a school persister who may decide to drop out of a marriage, a job, a church or a family relationship to remain in school. In this context, it is not surprising to find that studies comparing the persister to the dropout, describe the persister in more socially favorable terms than the dropout. For example, dropouts tend to be younger and single compared to persisters who were older, married or housewives with children (Dickinson & Verner, 1967). Persisters had recent histories of successful adult education participation (Hurkamp, 1968). Teichert (1968) found that persisters had been able to control both their domestic circumstances and academic programming, showed greater geographic and socio-economic mobility and were less satisfied with their present jobs than nonpersisters. LeClair (1969) found that

persisters perceived university evening classes as a need fulfillment and as a means of advancement. A number of studies, however, fail to find any significant differences between persisters and nonpersisters. Thus, Allen (1968) found no significant differences between performances on the California Achievement Test, Nelson Reading Test and General Aptitude Test Battery of successful and unsuccessful American Indian university extension students. Killian (1969) studied adults in the North Carolina Community College System and found no significant correlation between persistence and academic ability, social adjustment or job related objectives. Moore (1972) tested participants and non-participants in an adult basic education program in ten c[illegible]nities in North Carolina and found no significant differences on several non-cognitive measures including a self-concept scale, a work beliefs checklist, and several other noncognitive measures. Cunningham (1973) found no significant relationship existed between dropouts and continuers in a population of 200 black adult students on measures of self-esteem and utility value of their adult basic education program. Grabowski (1972) concluded that expressed reasons for enrolling in an adult education course have no significant relationship to either completion or dropping out.

Both types of studies described previously have been used in predicting dropout behavior in adults--at least, whenever the findings of such studies seemed to indicate the preponderance of some type of trait on the part of the dropout or the completer. However, dropout prediction scales for adults have had only a very limited amount of success, and have not had a wide application. No valid and reliable

predictive instrument, based upon an acceptable theory could be found in general use. However, some useful data has, apparently, been generated in a number of studies. Larson (1969) found that dropouts tend to be younger, separated or divorced, have fewer children, more incidents of illness and have more family problems than persisters. Cassara (1970) was able to predict correctly three dropouts and four graduates out of ten admissions selected at random in the Goddard College Adult Degree Program, by applying predictor variables in the socio-economic, value and goal orientations toward professional careers and self actualization.

On finding that very little material had been published on dropouts from educational programs at the adult level, Sainty (1971) generalized from high school level research that factors which might have prediction value for adults would be intelligence, reading ability, personality factors and certain biographical data. Upon identifying a group of 104 male adult students in Canada enrolled in a program with a fifty-five percent dropout rate, he administered the Terman-McNemar Test of Mental Ability, the Gates Reading Survey, the Q-Tags Test of Personality and a personal data questionnaire. He found seventeen significant predictor variables, of which four were measured on the tests, the remainder were biographical differences. The majority of the thirteen biographical differences were categorized by the researcher (Sainty, 1971, p. 227) into a "nonsuccess syndrome." Dropouts were not as successful as their counterparts in either their previous schooling and in their work experiences. Lucy Perry (1968) studied the persistence of 115 registered nurses completing baccaulaureate

degree requirements at Indiana University. It is interesting to note that these persisters were able to control their environmental press rather well. While almost seventy percent of her population reported that they were single on admission, sixty percent were still single on graduation. There was an increase of only one separation and one divorce. The study did not deal with the characteristics of dropouts, but inferred an intriguing possibility of "dropouts" from an important social obligation.

The influence of outside variables on academic performance, including dropping out, was demonstrated by Di Salvi (1971). In comparing the subsequent academic performance of a group of evening adult students who had received remedial training to a control group which had received no training, he could find no significant difference in the grade point averages of the two groups. He concluded that uncontrolled, nonacademic variables exerted as great or greater influences on grade point averages than did the treatments imposed on the experimental group.

Carroll Londoner (1972) studied the perserverance versus the nonperserverance patterns among adult high school students, using Talcott Parsons' (1951) internal-external model for classifying action orientations based upon the timing of gratifications. Londoner developed a questionnaire of adult education participation items which were classified according to Parsons' external or internal instrumental preferences, and administered it to 134 adult summer session students. The dropout rate was nineteen percent. Londoner found that perserverers

more often than nonperserverers will rate externally oriented goals high in importance. However, age and marital status clearly specified the conditions under which nonperserverance for internally oriented goals were related.

Roger Boshier (1969) studied dropout behavior as a function of the interaction between the student and his educational environment based upon Carl Rogers' (1959) self-concept theory, and in particular, the notion that self-acceptance and acceptance of others is linearly related, and that the magnitude of self/other ratings would be associated with dropout persistence behavior. He developed a Personality and Educational Environment Scale (PEES) to conceptually order and measure variables that cause a person to be generally dis-functional in the academic situation in which he found himself. The scale was found useful in diagnosing dropout behavior in an institution that conducts courses involving a great deal of student/staff and student/student interaction. Developed in New Zealand, the scale has not been in general use in the United States. Boshier subsequently (1972) developed a Dropout Prediction Scale (DPS) to overcome some of the problems associated with the PEES. The DPS is an attitudinal scale on which respondents are asked to evaluate certain behaviors in an adult educational environment. Boshier found that respondents who rated the adult education participant who persisted to be more worthy than the one who dropped out, are themselves, less inclined to drop out of a class than those who regarded dropouts in the same or more positive light than persisters. Boshier (1972, p. 97) believes that

non-course related reasons for dropout behavior are often used as a rationale for dropping out because of course related reasons. He advocates behavior modification techniques to contain dropout rates. More recently Boshier (1973), viewed dropouts as "an extension of a nonparticipant" with the characteristics of one associated with the other, and developed a model which asserted that the congruence of the internal psychological determinant of an adult student and his educational environment determine dropout/persistence behavior (Boshier, 1973, p. 260).

Although more than a decade has passed since Ulmer and Verner's (1963) observation that adult dropout research is "scant and inconclusive" it is evident that there has not been a great deal of progress in the field since then.

Coping and Adaptive Behavior

The research of Mandler and Watson (1966) provides a possible direction for adult dropout research. The authors hypothesized that when an individual's life style is suddenly interrupted with either a positive or negative life change, the person characteristically responds with feelings of anxiety. In turn, his anxiety arousal affects his performance by setting the stage for a wide variety of responses, the specific character of which is related to environmental press and cognitive factors. Thus it would be reasonable to assume that when an adult's life change consists of entering a learning environment, this environment will impose adaptive tasks on him which require the

mobilization of new resources. Such similar situations which require adaptation to a life change continually face every individual during his life time. These situations are conceptualized as "crises" by behavioral scientists (Erikson, 1963; Caplan, 1964; Lindemann, 1965).

The perception and definition of the tasks facing the individual, as well as the strategy he selects for attempting to manage these tasks, become important parts of the process of resolving his crisis. The critical issue arises over the choice of these patterns of adaptation, which can be predominantly regressive or defensive--such as dropping out--or they may represent efforts to master the environment, reorganize the perception of the task ahead and solve the problem of dealing with the new situation. Hamburg and Adams (1967) have applied the term "coping" to the dynamic process of individual styles and strategies of mastering a crisis situation.

Whether the environmental pressures influencing the behavior of an adult student are academic or not related to the school itself, dropout behavior is basically viewed as a type of coping or adaptive response. When Murphy's (1962) definition of coping--"any attempt to master a new situation that can be potentially frustrating, challenging or gratifying"--is applied to an adult or continuing education situation, the resulting behavior may be dropping out. Although much of the research in coping is limited in scope and does not encompass all the varieties of coping responses, the literature is rich with descriptions of coping behavior. Coping and adaptive behavior is found in all types of organisms and is present in primates (Carpenter, 1940; Ellefson, 1966; Hale, 1965), children (Murphy, 1954, 1955; Piaget,

1952; Rheingold, 1956), adolescents (Silber, 1961) and adults in a variety of person crisis situations (Hamburg, Hamburg, & deGoza, 1953; Janis, 1970; Mann & Janis, 1968).

Lazarus and associates (1970) regard coping as problem solving efforts made by an individual when the demands he faces are highly relevant to his welfare and when these demands tax his adaptive measures. According to Alexander George (1974), many of the classic ego defense mechanisms can be used constructively by an individual in the total process of coping. Such defensive operations as withdrawal (or dropping out of school), denial and projection, "need not preclude eventual adaptation to a difficult situation; rather, they may give the individual time to regroup ego resources and provide him with the short run, tactical ego support that facilitates a long-term process of coping (p. 177)." Thus, coping is seen as a process that may extend over time and use a number of coping mechanisms. In this context, the question whether a significant number of adult dropouts do so only temporarily and then reenroll has never been answered.

When coping is viewed not solely in terms of an individual's behavior, but also in terms of the acceptability of this behavior in context of his social and cultural climate which may impose penalties when defensive processes reach beyond what is acceptable to one's fellows (Korchin & Ruff, 1964), then dropping out of school, usually a socially undesirable behavior, can produce additional anxiety. Thus, the question of whether an adult may not drop out of some other equally socially valued, but sometimes less stigmatized situation,

such as marriage, to avoid being labeled as a dropout, has not been answered, either.

According to Wolfenstein (1957), successful adaptation may not require an accurate perception of reality. Sanity is frequently maintained by suppressing vulnerability in relation to the risks of the real world, and the appropriate criterion for evaluating various defensive measures is the extent to which these facilitate coping and mastery.

Measurement of Adaptive Behavior

There are a number of ways adaptive behavior has been assessed and measured, the most prominent in the literature are probably those which use the clinical interview and the psychological assessment. Typical of the interview techniques include accounts of adaptation to college (Coelho, Hamburg, & Murphy, 1963), to marriage (R. Rapoport & R. N. Rapoport, 1964), doctoral examinations (Mechanic, 1962), major surgery (Abram, 1965) and concentration camps (Cohen, 1953), among others. These studies, although constituting a remarkable account of the actual processes that occur, have, according to Mechanic (1974), "depended too much on retrospective reports, and the structure of the data they have produced allowed each investigator to promote his favorite set of conceptions, in the absence of controls." Mechanic (1974, p. 39) also claims that the use of personality assessment tools frequently allowed the investigator to explain, but not illuminate performance differences. Thus, we learned that "men achieved because

they had a need for achievement, that they were prejudiced because they were authoritarian and that they did not participate because they were alienated."

Almost every type of personality test has been used in an attempt to correlate some aspect of personality with the ability to cope. These are too numerous to review in detail here, but some of these studies can be summarized. The Thematic Apperception Test (TAT) has been used by Tooley (1967) in comparing coping styles of adolescents, late adolescents and adults. Coelho, Silber and Hamburg (1962) had college freshmen write stories accompanying TAT-type pictures portraying scenes of various school oriented situations, to determine whether the subjects provided any solution to the problems posed in the pictures. Gardner and colleagues (1959) have looked for evidence of repressive tendencies on the Roschach test. Welsh (1956) factor analyzed the Minnesota Multiphastic Personality Inventory (MMPI) to identify two dimensions which he labeled R (repression) and A (anxiety). He found high R subjects as being characterized by repression and denial and low R subjects as being characterized by externalizing and acting out behaviors. Finally, Taylor's (1956) Manifest Anxiety Scale has been used to correlate different personality factors to manifest anxiety, and the scale has been used to study the relationship between anxiety and academic achievement (Davids & Eriksen, 1955; Grooms & Endler, 1960; Riggs, 1961; Sarason, 1956, 1957; Schultz & Calvin, 1955).

One of the problems already apparent with some of the assessment techniques described above is that they tend to measure

general tendencies to engage in some types of behavior or to demonstrate some type of trait, rather than the trait itself. A fairly recent emphasis on unobtrusive measures (Webb, Campbell, Schwartz & Sechrest, 1966) has given impetus to the use of biographic variables as a measurement of social competence and adaptive behavior. Phillips (1968) feels that the key to a person's future effectiveness lies in how well he has previously coped with and adapted to the environmental press. He found that a person's coping potential as indicated by the adequacy of his performance under conditions of experimental stress and his level of psychological development as measured by the Roschach are both related to the achieved level of social competence (Phillips, 1968, Ch. 2). Glueck and Glueck (1959) presented data suggesting that the social competence variables of intelligence, education and occupational skill, work habits, and use of leisure time, are related to a favorable prognosis of delinquents. Holmes and associates (Holmes, Joffe, Ketcham & Sheehy, 1961) found that factors such as marital status, educational achievement, and regularity of employment discriminated between improved and unimproved patients. Barthell and Holmes (1968) studied high school senior yearbooks summaries as a nonreactive archival measure of high school activity. They found that graduates who were later diagnosed as aschizophrenics had participated in fewer high school activities.

The Social Readjustment Rating Scale (SRRS) used a treatment variable in this study, is essentially a biographical technique. It concentrates on life changes specifically requiring various amounts of coping behavior. Holmes and associates (Holmes & Rahe, 1967)

constructed the SRRS consisting of a number of life events, the occurrence of which usually evokes or is associated with some adaptive or coping behavior on the part of the individual involved.

Life Change Research

Life change research has become more prominent since 1967 in a variety of settings. Retrospective studies made by Rahe and colleagues in Sweden showed a positive relationship between mounting life change and sudden cardiac death (Rahe & Lind, 1971). Edwards (1971) demonstrated a relationship between life change and myocardial infarction. Similar data has been produced for the relationship between life change and the occurrence of fractures (Tollefson, 1972) and the presence of a life crisis in the family at the time of onset of leukemia in children (Wold, 1968).

Rahe (1968) expanded the studies to predict illnesses among approximately 2,500 personnel who comprised the crew of three United States Navy cruisers. The upper thirty percent of the life change units scores provided the high risk group and the lower thirty percent provided the subjects for the low risk group of crewmen. In the first month of the cruise, the high risk group had nearly ninety percent more first illnesses each month for the six month cruise than the low risk group.

Holmes explains his findings by reasoning that the greater the life change or adaptive requirement, the greater the vulnerability or lowering of resistance to disease that does develop. He postulates that "life change events, by evoking adaptive efforts by the human

organism that are faulty in kind and duration, lower 'bodily resistance' and enhance the probability of disease occurrence (Holmes & Masuda, 1973, p. 182)." The notion that individuals, in the process of coping, may develop an exhaustion of adaptive energy, is shared by other psychiatrists (Cammer, 1969, p. 20). The American Psychiatric Association manual, The Diagnosis and Statistical Manual of Mental Disorders, reserves a major category of disorders that occur in individuals as a reaction to overwhelming environmental stress (American Psychiatric Association, 1968, Ch. VIII, Sec. 307).

Life Change as a Factor in the Performance of Students and Teachers

Research related to life change and its effects on students was initiated by Thomas S. Holmes (1970). Holmes followed fifty-four medical students from the beginning of their freshman year to the end of their sophomore year. Of these, eighty-six percent with high life change scores (300+), forty-eight percent with moderate life change scores (200-299) and thirty-three percent with low life change scores (150-199) experienced major health changes. The data also revealed that subjects with major health changes experienced more minor health changes than subjects without major health changes.

Wilder, Hubble and Kennedy (1971) attempted to determine the relationship between life change and occurrences of infectious mononucleosis among students at Kansas State University. Contrary to expected outcome, their findings indicated that the group which experienced mononucleosis did not have significantly more life changes than subjects from four other populations. However, further analysis

of the data did reveal that in each of the five groups, the median score on life change for students who reported physical illness within the past year was significantly higher than those reporting no illness.

Bramwell (1971) recorded life change on one hundred college football players one year prior to the football season. The subjects were divided into low, medium and high risk categories according to their life change scores. At the end of the football season, fifty percent of the high risk group experienced injury, twenty-five percent of the medium risk group had suffered an injury and nine percent of the low risk group experienced an injury. Of the ten players who sustained multiple injuries during the season, seven were in the high risk group.

Carranza (1972) examined the impact of life change on the performance of high school teachers. He found a positive and significant correlation between teacher life change magnitude and teacher absenteeism because of illness or injury and the number of times the teacher changed residences. There was a significant negative correlation between the amount of life change and graduate education attained beyond the bachelor's degree. In essence, the study suggested that high life change activity is associated with the less desirable aspects of teacher performance.

Harris (1972) was among the first to apply the concept of life change to academic achievement, in effect, taking the concept out of its previous medical orientation. He based his investigation on the assumptions that overstimulation at the cognitive level which results from too rapid a change (Toffler, 1970, p. 348) interferes

with a subject's ability to concentrate. Also, since the efficiency of individuals at tasks requiring cognitive skills deteriorates when the rate at which they must function is increased (Miller, 1967), time pressed subjects sometimes reach limits beyond which they are unable to function (Toffler, 1970, p. 351). Harris approached his investigation by dividing college freshmen into low, medium, and high academic risk populations based upon their American College Test (ACT) scores. The life change data was collected through the use of the Social and Collegiate Readjustment Rating Scale (SCRRS), a variation of the SRRS, designed for full time college students (Holmes & Masuda, 1973, p. 178). Academic achievement was evaluated by grade point averages of the subjects at the end of one semester. Harris (1972, p. 43) found that grade point averages tend to be inversely proportional to the amount of life change experienced. This effect of life change on grade point average remained constant regardless of the level of college readiness.

Roger Bassetti (1973) reasoned that academic achievement is related to not only life change, but other factors. With this rationale, he studied academic achievement in relation to life change, trait anxiety and dogmatism. Bassetti used the SCRRS, the Trait Anxiety Inventory (Spielberger, Gorsuch & Lushene, 1970) and the Dogmatism Scale (Rokeach, 1954). The study was the first of its kind which dealt with life change together with other traits, in the academic setting (Bassetii, 1973, p. 6). Dividing his population into low, medium and high academic risk categories based upon academic achievement

expectancy as reflected by college entrance tests, he collected data on life change, trait anxiety and dogmatism and related these to the grade point averages of the students. He found that there were no significant differences among mean scores on life change, trait anxiety and dogmatism between students with high grade point averages and students with low grade point averages, regardless of their academic risk category. Further analysis of the data showed that in the low academic risk category population, mean grade point averages among students with high life change scores were significantly lower than mean grade point averages among students with low life change scores. No significant relationships were found between life change, trait anxiety, dogmatism and levels of academic achievement (Bassetti, 1973, pp. 75-76).

No previous study which specifically focused on the influence of life change in adults entering a continuing education program was found. Thus, the question whether a history of recent life crises which have required an expenditure of large amounts of adaptive energy can influence the academic performance of an adult, has largely been unanswered. This study aimed to contribute an approach which may be useful in dealing with this problem.

CHAPTER III

RESEARCH PROCEDURE AND METHODOLOGY

Rationale for the Design of the Study

Holmes' studies on the effect of life change and the onset of illness are based on the theory that an individual does not have an inexhaustible supply of energy. If he uses too much energy to cope with the environment, he has less to spare for preventing disease. The theory, that individuals have a limited supply of energy with which to cope with problems and may develop what Cammer (1969) described as an exhaustion of adaptive energy, is a basis for the classification and diagnosis of clinical categories of mental disorders. These disorders may have physical as well as mental symptoms (American Psychiatric Association, 1968).

In light of this theory, it would be reasonable to assume that an adult who enrolls in an adult or continuing education program comes to it with a potential store of energy which he can expend to cope with the learning environment. However, if he has a history of life events which have already caused a great deal of stress to cope with, it would be logical to expect that the amount of energy he can spend to cope with the learning environment may be more limited.

It would also be reasonable to expect that an adult who may have difficulty in mastering the content of a learning program for any reason, and who can be described as being in a high academic risk

category based upon his academic ability expectancy, would probably need to spend more energy coping with the learning environment than an adult with a greater potential for achieving academic success. However, such an expectation may not, necessarily, lead to dropout behavior or even marginal academic achievement, when such a high risk student has not had to expend a great deal of his energy on coping with recent life changes. At the same time, an adult with a high potential for academic achievement who would not need to expend very much of his energy in coping with the learning environment, may still become a dropout if he has had to cope with so many recent life changes that he has insufficient energy left to cope with the pressures of the learning environment.

It would be reasonable to assume that a representative group of adult students, divided into populations of low, medium and high academic risk categories based upon some reasonably valid academic ability expectancy measure, would have an equal chance of having a history of life changes requiring varying degrees of coping behavior independent of their academic risk categories. If this assumption is correct, then there should be no significant difference between mean measures of life change for each academic risk category. On the other hand, if there is a significant difference in mean life change measurements for adult student populations in different academic risk categories, it would be valuable to determine whether the ratio of dropout frequency to the mean life change measures is fairly constant for each academic risk population.

Hypotheses

Based on the above rationale, the following null hypotheses were developed:

Hypothesis 1: There is no significant difference in the amount of life change between selected adult students in low, medium and high academic risk populations.

Hypothesis 2: There is no significant relationship between the amount of life change in selected adult students in a low academic risk category and the frequency of their dropout behavior.

Hypothesis 3: There is no significant relationship between the amount of life change in selected adult students in a medium academic risk category and the frequency of their dropout behavior.

Hypothesis 4: There is no significant relationship between the amount of life change in selected adult students in a high academic risk category and the frequency of their dropout behavior.

Hypothesis 5: There are no significant differences in the frequencies of dropout behavior of selected adult students in low, medium and high academic risk categories.

Hypothesis 6: There is no significant relationship between the amount of life change in selected adult students and the frequency of their dropout behavior.

Selection of the Population

The population in this study consisted of all adults enrolled in the five evening sections of English 101, Communications Skills, at Tidewater Community College (TCC), Virginia Beach, Virginia. Total

enrollment in this course for the Fall 1974 quarter consisted of 122 students. Of these, 100 were finally selected for the population of this study on the basis of being adults as defined in this study.

The students selected were entering students, or freshmen. Chase (1965) emphasized the relevancy of this approach by demonstrating that half of all college students who drop out do so in the freshman year. Henley (1969) stated that the freshman year is a particularly trying period. Toffler (1970, p. 361) related the problems of college freshmen to environmental press and described some of the consequences of the resulting cognitive overload.

English 101 was selected for the study since it is the first required course for all occupational technical terminal degrees and certificates. The investigator was advised by the Director of Continuing Education that this course, when given in the evening, is likely to contain more adults who are beginning students than any other course. Students whose program of study leads to a transfer to a four year institution are required to take English 111, English Composition (TCC Catalog, p. 150). It was unlikely that English 111 would contain as many adults, or as many students as English 101, because of the presence of several four year universities in the area. It was rationalized that most adults contemplating to undertake a four year degree would enroll in the evening program of one of these four year colleges.

Procedures Used

The last day to withdraw without penalty from Tidewater Community College during the Fall, 1974 quarter was on October 18.

On October 22, 23, 24, and 29, all five sections of English 101 were administered the Social Readjustment Rating Scale (SRRS). In preparation for the administration of the SRRS to the population of this study, the SRRS had been previously administered to fifteen members of the author's Social Psychology of Business class at Golden Gate University Extension Program, Naval Air Station, Oceana and adjustments were made to verbal and written instructions for administering the SRRS based upon this experience.

The SRRS instruments were collected and those which were unusable or indicated that the respondent did not qualify as a freshman or an adult, were discarded. Of a total enrollment of 122, the number of questionnaires returned was 106, of which 100 were found usable for this study.

Each questionnaire was further processed as follows:

1. Total life change scores were computed mechanically in those cases where the respondent answered the questions by checking those life events which occurred in his life during the previous year, but did not add his total life change scores.

2. Total life change scores were computed mechanically in all cases where the respondent did add the total life change units of each SRRS event checked, to ensure accuracy. Although minor corrections were made, in no case was there a significant difference between the scores computed by the student and those computed by the author to reflect a difference of more than a few points.

3. Each questionnaire was coded to indicate the respondent's academic risk category. This category was determined on the basis of

the subject's high school grades which he had entered on a space on the page containing the instructions for filling out the SRRS. Where the mean of the overall high school average was less than a "C" or seventy percent, the subject was placed in the high academic risk category. A "C" or 70-79 percent grade point average denoted a medium academic risk category. A "B" or "A" average or 80+ percent grade point average reflected a low academic risk category. Non-high school graduates were requested to record their last grades received, and were without exception, placed in the high risk category. This procedure resulted in the assignment of a low academic risk category to thirty-four subjects, a medium academic risk category to forty-eight subjects and a high academic risk category to eighteen subjects.

4. Each questionnaire was further coded to reflect the type of life crisis situation of the subject. Holmes and Masuda (1973, p. 175) defined a life crisis as any clustering of life change events whose individual values summed to 150 life change units in one year. Thus, 150-199 life change units as scored on the SRRS were coded as a "mild" life crisis, 200-299 as a "moderate" crisis and more than 299 as a major crisis (Holmes & Masuda, 1973, Table 6, p. 175).

At the end of the Winter, 1974-75 quarter, March 27, 1975, the population list was furnished to the Director of Continuing Education at TCC. This individual annotated the list with appropriate comments concerning those individuals who were no longer on the official TCC rolls, and identified those who were considered dropouts as defined in this study. Thus, twenty-three individuals were classed as dropouts.

The frequency of dropout rate was determined for each academic risk category by comparing the list of dropouts to the appropriate codes on their SRRS questionnaires. There were nine dropouts in the low risk category, eleven in the medium risk category and three in the high risk category. The hypotheses in this study were tested by statistical methods described in the "Treatment of the Data" section of this chapter.

Methods and Sources of Data Collection

Data on life change was collected through the use of the SRRS (Holmes & Rahe, 1967). The SRRS was used to record life changes which the subjects had experienced about one calendar year preceding the study.

The academic risk category was determined by a self-report of high school grades in English, Mathematics and the overall high school average of the subject. Official records for this type of data is no longer releasable at TCC for research purposes without the consent of the student because of legal requirements to protect privacy. However, the feasibility of using self-reported grades has been established by Educational Testing Service of Princeton, New Jersey (Ford, 1973). From data provided by twenty-three colleges, Educational Testing Service found that the correlation between college reported high school grades and student reported grades was .872 for students in occupational technical programs (Ford, 1973, p. 9). The same study indicated that the high school record together with English and Mathematics grades is nearly always the best predictor of college grades (Ford, 1973, p. 2).

The SRRS was furnished by its senior author, Thomas H. Holmes, M.D., and permission was granted for its use in this study (Appendix II). The SRRS was reproduced and administered to the population by the author of this study, with the permission of Mr. D. William Bridges, Director of Continuing Education, TCC, Virginia Beach, Virginia, and each English 101 teacher.

In order to obtain a good response to the questionnaire, steps had to be taken to safeguard the respondent's privacy, since knowledge of some of the more intimate life changes and the ability to associate these with a student, might be regarded unfavorably by the respondent, and result in reluctance to participate in this study. The following measures were taken:

1. Respondents were instructed that they need not return that portion of the SRRS instrument which listed the life changes.

2. If a subject chose to withhold the portion of the SRRS questionnaire which listed life changes, he was instructed to add up his total life change unit score, and list this score on a space provided for this entry on the first page of the questionnaire. This page contained only student identifying data and self-reported grades achieved in high school. When only that was returned, the investigator would know the subject's total life change unit score, but would not be able to attribute the score to any particular life event or combinations of life events.

Only about twenty percent of the subjects chose to withhold life change information. The self-computed life change scores of these

subjects could not be verified. However, on the basis of the audit made on the scores of the eighty percent who did not withhold the life change information, it is doubtful whether any addition errors that would have had any significant outcome on the results of this study were made. The audit indicated that no errors in addition were made which would have placed a subject in a different life crisis category than the one indicated by his own addition.

The data on previous grades which determined a subject's academic risk category was obtained by self-report during the administration of the SRRS, and entered by the subject in the appropriate space on the cover sheet containing the instructions for taking the SRRS (Appendix I).

The names of the subjects as well as those of the dropouts were furnished by the TCC Director of Continuing Education. The investigator was furnished this information in the form of computer printouts (Appendix III). The printouts were audited by Mr. Bridges, and annotated when incorrect. Annotation was also used to eliminate those individuals no longer registered, but not considered dropouts by joint agreement of Mr. Bridges and the author.

Description of the Data Gathering Instrument

The Social Readjustment Rating Scale (SRRS) was developed by Thomas H. Holmes, and associates (Holmes & Rahe, 1967, p. 214) to measure both positive and negative life change which is experienced by a person over a period of about one year prior to his taking the instrument. The scale consists of forty-two statements pertaining

to various types of life change. Each item (see Appendix I) contains a life event whose advent is indicative of, or requires a significant change in an ongoing life pattern. Holmes began his research on life change at Cornell University and continued it at the University of Washington School of Medicine. With the help of Richard Rahe, a fellow psychiatrist, Holmes developed a research tool called the Life Change Units Scale, which measures how much change an individual has experienced over a period of one year. Examples of life change as defined by Holmes and Rahe include divorce, marriage or a move to a new home. To arrive at a scoring system for life change, the investigators assigned an arbitrary value of fifty to the act of getting married and then asked people in the United States and several countries to rank other changes in relation to marriage (Holmes & Rahe, 1967, Table 2, p. 215). To the investigator's surprise, there was widespread agreement as to which changes in their lives required major adaptations, and which ones were relatively unimportant (Holmes & Rahe, 1967, Table 3, p. 216). In the course of their research on degrees of life change in relation to health, the investigators discovered that about eighty percent of the people who experienced life change which exceeded 299 units on the Life Change Units Scale were associated as having experienced a "major" life crisis. They became pathologically depressed, had heart attacks or developed other serious ailments (Rahe, Meyer, Smith, Kjaer, & Holmes, 1964). Scores in the 150-199 range were associated with a "mild" life crisis, and scores in the 200-299 range with a "moderate" crisis (Holmes &

Masuda, 1973, p. 176). Thus, the evidence tended to show that too much life change--be it either "good" or "bad"--if experienced in the comparatively short period of one year, becomes positively related to serious illness in an individual (Hinkle, 1957; Holmes & Masuda, 1973; Mechanic, 1972).

Holmes' study has been validated in the United States by Uhlenhuth and Paykel (1973), by Komaroff and associates for Negro, Mexican and White Americans (Komaroff, Masuda, & Holmes, 1968), by Masuda and Holmes (1967) in Japan and in France, Belgium and Switzerland by Harmon, Masuda and Holmes (1970).

The SRRS as used in this study, was reprinted by the author's permission. The instrument as used in this study follows the machine version of the SRRS and omits Christmas as a life change event, listing only forty-two of the original forty-three life change items (Holmes & Rahe, 1967a). A cover sheet containing instructions and spaces for the subject to enter identifying particulars, former grades and total life change unit scores was attached to the SRRS by the investigator.

Treatment of the Data

A single classification analysis of variance was used to determine if a significant difference in life change existed between adult students in low, medium, and high academic risk categories.

Three *t*-tests for uncorrelated data were separately employed to determine if a significant difference in life change existed between adult students in low, medium and high academic risk categories.

A chi square ($\underline{x}^2$) test was employed to determine whether the difference in the dropout frequencies of adult student in each academic risk category is greater than that which could be expected by chance alone.

A separate t-test was employed to determine if amount of life change in adult students regardless of their academic risk category can be related to the frequency of their dropout behavior.

An alpha level of .05 was selected as the point of acceptance or rejection of all hypotheses.

CHAPTER IV

DATA AND ANALYSIS

This chapter presents a summary of the study and the tests of hypotheses together with an analysis of the data in the study and a description of procedures used.

Summary of the Study

The purpose of the study was to determine whether a significant relationship existed between life change which required coping behavior and dropping out of a continuing education program. The Social Readjustment Rating Scale (SRRS) was selected to measure life change. Developed by Thomas H. Holmes and colleagues (Holmes & Rahe, 1967) this scale consists of forty-two life events related to environmental stress, and assigns a numerical value to each event. The accumulation of too many stress factors by an individual was correlated by the researchers to the onset of medical problems when such life events occurred within one year.

The population for this study consisted of all freshman adults enrolled in five evening sessions of English 101 at Tidewater Community College, Virginia Beach, Virginia, during the Fall, 1974 quarter. The SRRS was administered during the beginning of the Fall 1974 quarter to all adult students and one hundred usable questionnaires were returned. The students were divided into academic achievement expectancy categories or academic risk categories on the basis of

their high school grade point averages. Three academic risk categories, high, medium and low risk categories were thus established.

At the end of the Winter 1974-1975 quarter, approximately five months after the administration of the SRRS to the population, a list of dropouts was obtained from the Director of Continuing Education, thus completing the data gathering effort.

The interactional effect of life change, academic risk categories and dropout frequencies was determined by statistical analysis. The specific hypotheses tested, the methodology employed together with the resultant findings are described in the remaining section of this chapter.

Tests of Hypotheses, Analysis, and Results

Hypothesis 1. There is no significant difference in the amount of life change between selected adult students in low, medium and high academic risk categories.

The hundred adult students comprising the population consisted of thirty-four in the low academic risk category, forty-eight in the medium risk category and eighteen in the high academic risk category. The means and standard deviations of life change scores of the three groups on the SRRS are shown in Table 1. There appeared to be no significant differences between the mean life change scores, as all means were within the 200-299 range defined by Holmes and Masuda (1973, p. 176) as a "moderate" life crisis category.

TABLE 1

MEANS AND STANDARD DEVIATIONS OF LIFE CHANGE SCORES OF SELECTED ADULT STUDENTS IN LOW, MEDIUM AND HIGH ACADEMIC RISK POPULATIONS

N	Academic Levels	Means	S.D.
34	Low	272.58	141.16
48	Medium	239.50	119.93
18	High	243.55	34.55
100			

In order to provide a more precise statistical test of significance, a one-way classification of variance described by McNemar (1969, pp. 303-306) was computed to determine if the mean scores of the groups differed significantly from each other. The data derived from the analysis of variance are shown in Table 2.

In the comparison of the life change mean scores of the three groups of selected adult freshmen in low, medium and high academic risk populations with 2/97 df, an F-ratio of 19.49 is required for significance at the .05 level. Table 2 indicates that the F-ratio obtained, 0.741, fell below this point. Therefore, the hypothesis that there is no significant difference in the life change mean scores among the groups was not rejected. It was concluded that the three groups had each experienced similar amounts of life change, and any differences in life change scores were no greater or lesser than those which could be expected by chance, alone.

TABLE 2

ANALYSIS OF VARIANCE OF LIFE CHANGE SCORES AMONG SELECTED FRESHMEN IN LOW, MEDIUM AND HIGH ACADEMIC RISK POPULATIONS

Source	df	Sum of Sq.	Variance	F
Between	2	23,168.2	11,584.1	0.741
Within	97	1,515,448.8	15,623.175	
Total	99	1,538,617		

Hypothesis 2. There is no significant relationship between the amount of life change in selected adult students in a low academic risk category and the frequency of their dropout behavior.

In the low academic risk category population consisting of thirty-four subjects, there were nine dropouts. Median life change score for the dropouts was 393.44 and median life change score for the twenty-five non-dropouts in the low academic risk category was 229.08. In a *t*-test for uncorrelated means, a *t*-ratio of 3.4 was found. Since a *t*-ratio of 2.042 was required for significance at the .05 level with 32 df, the ratio computed exceeded the requirement and the hypothesis was rejected. The results of the statistical treatment for the test of this hypothesis are on line one of Table 3. It was concluded, therefore, that dropouts in the low academic risk category tend to have experienced a significantly greater amount of life change than non-dropouts in the same academic risk category.

TABLE 3

t-RATIOS FOR INDEPENDENT MEANS OF LIFE CHANGE SCORES OF DROPOUT AND NON-DROPOUT ADULT STUDENTS AT DIFFERENT LEVELS OF ACADEMIC RISK

	Dropouts	Mean Life Change Score	Non-Dropouts	Mean Life Change Score	df	t Ratio
Low Academic Risk	9	393.44	25	229.08	32	3.40
Medium Academic Risk	11	353.09	37	208.91	46	4.41
High Academic Risk	3	413	15	209.67	16	3.85
Entire Population	23	376.69	77	215.61	98	6.19

Hypothesis 3. There is no significant relationship between the amount of life change in selected adult students in a medium academic risk category and the frequency of their dropout behavior.

Eleven dropouts were identified in the medium academic risk category, with a median life change score of 353.09. The thirty-seven non-dropouts had a mean life change score of 208.91. In a t-test for uncorrelated means, a t-ratio of 4.415 was found. Since a t-ratio of 2.021 was required for significance at the .05 level with 46 df, the ratio computed exceeded the ratio required, and the hypothesis was rejected. The data related to this hypothesis are shown in Table 3,

line two. It was concluded that dropouts in a medium academic risk category tend to have experienced significantly greater amounts of life change than non-dropouts in the same academic risk category.

Hypothesis 4. There is no significant relationship between the amount of life change in selected adult students in a high academic risk category and the frequency of their dropout behavior.

Of the eighteen adult students in the high academic risk population, three were identified as dropouts. The median life change score was 413 for the dropouts and only 209.67 for the non-dropouts. These extreme differences in means, when compared to the lesser differences in the dropout/non-dropout populations in the low and medium academic risk categories, may reflect the small number of subjects identified as belonging to the high academic risk category. A t-ratio of 2.12 is required for significance at the .05 level with 16 df. Since the computed t-ratio in a t-test for uncorrelated means of 3.85 exceeded the requirement, the hypothesis was rejected. The results of the statistical treatment for this hypothesis are in Table 3, line three. It was concluded that dropouts in a high academic risk category tend to have experienced significantly greater amounts of life change than non-dropouts in the same academic risk category.

The data for Hypotheses 1, 2 and 3 show that there is a significant relationship between the amount of life change experienced and the frequency of dropout behavior, regardless of assigned academic risk category.

However in terms of frequency of dropout behavior within each academic risk category, the results were unexpected. The highest percentage of dropouts, twenty-six percent, was in the low academic risk category. The dropout rate for the medium academic risk category was twenty-three percent, and the dropout rate for the high academic risk category was seventeen percent.

Hypothesis 5. There are no significant differences in the frequencies of dropout behavior of selected adult students in high, medium and low academic risk categories.

Table 4 shows the frequencies of dropout behavior of the population by academic risk category. Chi square (x^2) was 1.117. Since x^2 did not reach the 5.991 level required for significance at the .05 level, the hypothesis was not rejected. It was concluded that any differences noted in the frequencies of dropout behavior between the various categories could be attributed to chance, alone.

Hypothesis 6. There is no significant relationship between the amount of life change in selected adult students and the frequency of their dropout behavior.

Twenty-three dropouts were identified in the population consisting of 100 adult students. The mean life change score for the dropouts was 387.69, and the mean life change score for the non-dropouts was 215.61. A t-test for uncorrelated means was calculated and a t-ratio of 6.19 was derived. Since this ratio exceeded the t-ratio of 1.98 required for significance at the .05 level with 98 df, the hypothesis was rejected. The results of the statistical treatment to

TABLE 4

FREQUENCIES OF DROPOUT BEHAVIOR
OF SELECTED ADULT STUDENTS AT DIFFERENT
LEVELS OF ACADEMIC RISK

	High Risk	Medium Risk	Low Risk	N
Dropouts	3	11	9	23
Non-dropouts	15	37	25	77
N	18	48	34	100

$\underline{x}^2 = 1.117$ with 2 df.

Difference not significant at .05 level.

test Hypothesis 6 are on line four of Table 3. It was concluded that dropouts tended to have experienced significantly greater amounts of life change than non-dropouts.

CHAPTER V

OVERVIEW, CONCLUSIONS, IMPLICATIONS FOR FURTHER STUDY AND SUMMARY

This chapter is divided into three sections. The first section consists of a summary of the study. The second section presents the conclusions drawn from the findings. The third section consists of recommendations for future research.

Overview

The purpose of this research was to examine the relationship between life change and dropout behavior in freshman adult students in low, medium and high academic risk populations. This study attempted to answer the following major question:

"Is there a relationship between an adult's history of recent life changes which required coping behavior and his abandonment of a continuing education program, regardless of his academic ability expectancy?"

The population for this study consisted of one hundred adult students enrolled in English 101, Communications Skills, at Tidewater Community College, Virginia Beach, Virginia, during the Fall 1974 quarter.

The population was divided into low, medium and high academic risk groups on the basis of their high school grades. The population consisted of thirty-four subjects in the low academic risk category,

forty-eight in the medium academic risk category and eighteen in the high academic risk category.

Each subject was administered the Social Readjustment Rating Scale (SRRS) at the beginning of the Fall, 1974 quarter. The SRRS was used to record life changes which the subjects had experienced during the calendar year preceding the study.

At the conclusion of the Winter 1974-1975 quarter, the names of adult students who dropped out of Tidewater Community College were obtained from the Director of Continuing Education.

The data on academic risk category, life change and dropout behavior was used to test the following hypotheses:

Hypothesis 1. There is no significant difference in the amount of life change between selected adult students in low, medium and high academic risk populations.

Hypothesis 2. There is no significant relationship between the amount of life change in selected adult students in a low academic risk category and the frequency of their dropout behavior.

Hypothesis 3. There is no significant relationship between the amount of life change in selected adult students in a medium academic risk category and the frequency of their dropout behavior.

Hypothesis 4. There is no significant relationship between the amount of life change in selected adult students in a high academic risk category and the frequency of their dropout behavior.

Hypothesis 5. There are no significant differences in the frequencies of dropout behavior of selected adult students in low, medium and high academic risk categories.

Hypothesis 6. There is no significant relationship between the amount of life change in selected adult students and the frequency of their dropout behavior.

The results of this study indicated that there was no significant difference in the means of life change scores of adult students in the low, medium and high academic risk groups. Hypothesis 1, therefore, was not rejected. The F-ratio found in comparing life change scores of the population in low, medium and high academic risk categories fell below. It was noted that all three groups had experienced similar amounts of life change prior to their participation in this study.

Hypothesis 2 was rejected on the basis of the results obtained. The t-test indicated a significant relationship between life change scores and dropout behavior. It was found that dropouts in the low academic risk category tended to have significantly higher life change scores than non-dropouts in the same academic risk category.

Hypothesis 3 was rejected since the t-test indicated a significant relationship between life change scores and dropout behavior for the population in the medium academic risk category. Dropouts in this category were found to have experienced a significantly higher amount of life change than non-dropouts of the same academic risk category.

Hypothesis 4 was rejected. The t-test resulted in a ratio which exceeded the ratio required for significance at the .05 level. It was noted that the dropouts in the high academic risk category

had reported significantly greater amounts of life change than the non-dropouts in the high academic risk category.

Hypothesis 5 was not rejected on the basis of the results obtained. A chi square ($\underline{x}^2$) was computed to determine whether the differences in dropout frequencies of adult students in low, medium and high academic risk categories are greater than those which could be expected by chance alone. Since $\underline{x}^2$ did not reach the level required for significance at the .05 level, no significance could be implied to the differences in dropout frequencies of each academic risk category.

Hypothesis 6 was rejected on the basis of the obtained results. The t-tests indicated a significant relationship between the amount of life change in the entire population and the frequency of dropout behavior. Individuals who dropped out had experienced significantly more life change than those who remained in school.

Conclusions

The analysis of the data warranted the following conclusions:

1. There was no significant difference in the amount of life change of adult students at low, medium and high academic risk levels. This result was predictable. All individuals, regardless of their academic ability expectancy, should have an equal chance of experiencing various life events which produce stress and anxiety. The findings concerning the nonsignificant relationship between life change and academic risk in adults are similar to those found in

previous research by Bassetti (1971, p. 71). Although Bassetti failed to find a statistically significant relationship between the quantities of life change and academic achievement expectancy of his full time college student freshman population, he noted that the amount of life change of his subjects increased as their levels of academic risk increased. The observations in this study were contrary to those noted by Bassetti. It was found that the subjects in the low academic risk category had higher scores on the SRRS, or had experienced more intense life changes than their peers in the medium and low academic risk categories. This finding suggests that generalizations relating life change quantities to academic achievement expectancy of a younger group of full time college students may not be applicable to older, part-time students. The apparent contradiction in the two observations is explainable. Sheffield (1964) conducted research on the motives of adult education participants. He found that many participants expressed educational goals that can be considered therapeutic in nature. The adults perceived participation in adult education as a means of helping them cope with some of the very life events which are listed on the SRRS. Part-time participation in an educational program might open paths to advancement, a new career, meeting and making new friends or even learning new ways of coping with one's problems. Education might be seen by those adults with a previous history of success in high school (the low risk group, for example) as a way of coping with the stress and anxiety caused by critical life changes. Individuals without a background of successful performance in high school, who would have been classified as higher academic risks within

the context of this study, might not have perceived educational participation as therapeutic as readily as those individuals whose high school participation had been more successful.

2. Significant relationships were found between the amount of life change in adult students and the frequency of their dropout behavior in the low, medium and high academic risk categories, regardless of which academic risk category was assigned. It was found that the dropouts within every academic risk category tended to have experienced more stress and anxiety producing life changes than the non-dropouts.

This finding leads to the conclusion that dropout behavior of freshman adult students in a continuing education program can be related to a previous history of stress and anxiety producing life changes. It appears that when such an adult part-time student has accumulated too many life change units requiring the expenditure of too much coping energy, he may have insufficient inner resources remaining to cope with the learning process, and his chances of becoming a dropout are increased significantly. The tendency of an adult student to drop out would increase with the amount of stress and anxiety he has had to cope with during the previous year.

3. There was no evidence in this study that the assigned academic risk categories, high school grades, had any significant relationship to either life change or dropout behavior of the population. This may be partially explained by the possibility that the adults' life experiences between high school graduation and

enrollment in the continuing education program had resulted in non-traditional forms of learning. Grades received by an adult when he was an adolescent may not be a reliable predictor of academic achievement expectancy. The largest number of dropouts were to be expected in the high academic risk category. This study noted that the dropout percentage was highest in the low risk group. This finding leads to the possible notion that non-academic variables may be more important in predicting successful academic performance of adults than academic achievement as an adolescent.

Implications for Further Study

The results obtained in this study provided several implications and recommendations for future research. These are as follows:

1. This study found that adult continuing education students who had experienced critical levels of life change had a significantly greater chance of becoming dropouts than those students whose life changes required a less critical amount of coping responses during the past year. This lends weight to the possibility that life change is an important predictor variable in adult dropout research. It is recommended that the SRRS continue to be administered to a wider population at TCC and that the data collection effort be continued to determine whether individuals with critical levels of life change persist in dropout behavior. Tidewater Community College should conduct in-depth counseling interviews of those individuals who show a propensity for dropping out in light of their critical levels of life change and make the necessary adjustments in their academic schedules in terms of numbers and difficulty of courses. Further

validating studies of the SRRS should include the identification of other variables such as age, sex, race, socio-economic status to determine whether these factors have any relationship to life change.

It may become evident that a person with an extremely critical life change level but with an excellent record of previous academic achievement will attempt to enroll. Because of the "open door" (admission) policy which now governs most community colleges, it would not be possible to deny such a prospective student the opportunity to enroll. It is recommended that the college identify these individuals and initiate an "outreach" program to work with them very closely for at least one year.

2. There was some evidence in this study that life change tended to increase as academic risk decreased. The subjects in the low academic risk group tended to have experienced more life change than the subjects in the medium and high academic risk group and the dropout rate in the low academic risk group was higher than in the medium and high academic risk groups. The probable reason for this is that individuals with a history of previous academic success may perceive education as a means of coping with life changes. Education may be seen as a solution to learning a new skill, coping with loneliness caused by divorce or death of a spouse, or upward mobility to pay off the heavy mortgage. The findings that such individuals are frequently unable to cope with the additional responsibilities imposed on them by the academic environment suggests that other solutions to such problems may be more fruitful. Further research in this area is recommended.

3. This study implies that high school grades as a measure of academic achievement expectancy of adults, are not by themselves a reliable predictor of an adult's ability to complete a continuing education program. Research to identify alternative means of predicting academic success in adult and continuing education programs should be undertaken.

4. The question of what happened to the dropouts in this study remains unanswered. The authors of the SRRS found that large amounts of life change were frequently a prelude to the onset of illness (Holmes & Rahe, 1967). Follow-up studies to determine whether the dropout behavior was accompanied by or influenced by adverse health changes should be undertaken.

Summary

This study attempted to ascertain whether a relationship existed between life changes requiring coping behavior and the frequency of dropouts in an adult continuing education program, regardless of academic ability expectancy. It was found that dropouts, regardless of their assigned academic risk category, had experienced significantly more life change than non-dropouts.

This leads to the possibility of individuals who are perceived as having excellent academic potential becoming dropout candidates when they bring a history of recent stress and anxiety producing life events to an academic environment. Pre-enrollment counseling of part-time adult students should receive more emphasis in continuing education programs. Information on non-academic variables such as life change should be collected and applied in researching the effect of this and other variables on dropout behavior as well as academic achievement.

APPENDIX I

THE SOCIAL READJUSTMENT RATING SCALE

SOCIAL READJUSTMENT RATING SCALE

Please read carefully before answering any questions.

INSTRUCTIONS:

1. Place a check (√) on the left space beside each event you have experienced since October 15, 1973 (last year) and a circle (0) beside each event which did not occur to you since October 15, 1973.

2. Each question has a value printed on the right-hand side of the questionnaire. Add the values of all questions answered with a check (√) in the space provided. Enter your score on the subtotal portion of each answer sheet.

3. Add the subtotals on Pages 2 and 3 and transfer your score to the box in the right-hand corner of the questionnaire portion of this page.

4. Fill out the remainder of the questionnaire on this page. To ensure the privacy of your answers, you may detach Pages 2 and 3 and turn in only this page. The researcher is interested in your total score rather than in the events which caused the score.

Enter Total Score Here _____

NAME (Please print): _____
Last First M

Age: _____ Sex: _____ Race: _____ Marital Status: (M, S, Divorced, Separated) _____

List your grades, (alphabetical or numerical) in the last school you attended, in the following subjects: Math: _____ English: _____

List the overall average you attained in the school you last attended (alphabetical or numerical): _____

		Value	Your Score
____1.	Trouble with the boss	23	
____2.	Change in sleeping habits (a lot more or a lot less sleep, or change in part of day when asleep)	16	
____3.	Change in eating habits (a lot more or a lot less food intake, or very different meal hours or surroundings)	15	
____4.	Revision of personal habits (dress, manner, associations, etc.)	24	
____5.	Change in recreation	19	
____6.	Change in social activities (e.g., clubs, dancing, movies, visiting, etc.)	18	
____7.	Change in Church activities (e.g., a lot more or a lot less than usual)	19	
____8.	Change in number of family get-togethers (e.g., a lot more or a lot less than usual)	15	
____9.	Change in financial state	38	
___10.	Trouble with in-laws	29	
___11.	Change in number of arguments with spouse (e.g., either a lot more or a lot less than usual regarding child rearing, finances, etc.)	35	
___12.	Sex difficulties	39	
___13.	Personal injury or illness	53	
___14.	Death of close family member	63	
___15.	Death of spouse	100	
___16.	Death of close friend	37	
___17.	Gain of new family member (e.g., through birth, adoption, oldster moving in, etc.)	39	
	Subtotal		

		Value	Your Score
___18.	Major change in health or behavior of family member	44	
___19.	Change in residence	20	
___20.	Detention in jail or other institution	63	
___21.	Minor violations of the law (e.g., traffic tickets, jaywalking, disturbing the peace, etc.)	11	
___22.	Business readjustment (e.g., merger, reorganization, bankruptcy, etc.)	39	
___23.	Marriage	50	
___24.	Divorce	73	
___25.	Marital separation	65	
___26.	Outstanding personal achievement	28	
___27.	Son or daughter leaving home (e.g., marriage, attending college, etc.)	29	
___28.	Retirement	45	
___29.	Change in work hours or conditions	20	
___30.	Change in responsibilities at work (e.g., promotion, demotion, lateral transfer)	29	
___31.	Fired at work	47	
___32.	Change in living conditions (e.g., building a new home, remodeling, deterioration of home or neighborhood)	25	
___33.	Wife began or stopped work	26	
___34.	Mortgage over $10,000 (e.g., purchasing a home, business)	31	
___35.	Mortgage or loan less than $10,000 (e.g., purchasing a car, TV or freezer, etc.)	17	
	Subtotal		

		Value	Your Score
___36.	Foreclosure of mortgage or loan	30	
___37.	Vacation	13	
___38.	Change in schools	20	
___39.	Change to different line of work	36	
___40.	Begin or end school	26	
___41.	Marital reconciliation	45	
___42.	Pregnancy	40	

Subtotal of this page _____

Subtotal of Page 2 _____

Subtotal of Page 3 _____

Total _____

Transfer this amount to questionnaire on Page 1.

APPENDIX II

AUTHOR'S PERMISSION TO USE
SRRS

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

School of Medicine
Department of Psychiatry and Behavioral Sciences

December 14, 1973

William W. Garry, Ed. S.
782 Suffolk Lane
Virginia Beach, Virginia 23452

Dear Mr. Garry:

Thank you for your interest in our research. I am pleased to give you permission to use our forms in your dissertation. I am enclosing both questionnaires for your information. The Social Readjustment Rating Questionnaire is the one used in the development of the Scale. The Schedule of Recent Experience (SRE) is for the purpose of obtaining the Life Change scores of the subjects.

Also I am enclosing a copy of our summary paper, "Life Change and Illness Susceptibility," in case you have not seen it as yet.

I wish you well in your dissertation and would be interested in hearing further from you as your research progresses.

Sincerely yours,

Thomas H. Holmes, M. D.
Professor of Psychiatry and
Behavioral Sciences

THH:ma
Encl.

BIBLIOGRAPHY

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Abram, H. S. Adaptation to open heart surgery: A psychiatric study of response to the threat of death. American Journal of Psychiatry, 1965, 122, 659-667.

Allen, R. L. A study of the characteristics of successful and unsuccessful students enrolled in the adult indian training program conducted by the adult education center of the University of Montana. (Doctoral dissertation, University of Montana), Ann Arbor, Mich.: University Microfilms, 1968, No. 69-2265.

American Psychiatric Association. The diagnosis and statistical manual of mental disorders. Washington, D. C.: American Psychiatric Association, 1968.

Barthell, C., & Holmes, D. High school yearbooks: A nonreactive measure of social isolation in graduates who later become schizophrenic. Journal of Abnormal Psychology, 1967, 72, 489-495.

Bassetti, R. L. Life change, trait anxiety, dogmatism and academic performance of college freshmen. Unpublished doctoral dissertation, East Texas State University, 1973.

Bennet, K. N. A study of the dropout problem in the accelerated adult high school program in the Dade County, Florida public schools. Unpublished doctoral dissertation, University of Miami, 1968.

Boshier, R. W. Participation and dropout in adult university extension classes. New Zealand Journal of Educational Studies, 1969, 4 (2), 117-132.

Boshier, R. W. An instrument and conceptual model for the prediction and diagnosis of dropout from educational institutions. Monographs in Adult Education, 1971, No. 1.

Boshier, R. W. Motivational orientations of adult education participants: A factor analytical exploration of Houle's typology. Adult Education, 1971, 21, 3-26.

Boshier, R. W. The development and use of a dropout prediction scale. Adult Education, 1972, 22 (2), 87-99.

Boshier, R. W. Educational participation and dropout: A theoretical model. Adult Education, 1973, 23 (4), 255-282.

Bramwell, S. T. Personality and psychosocial variables in college athletes. Unpublished medical thesis, University of Washington, 1971.

Bruker, R., M. & Taliana, L. H. Profile and perceptions of the part-time student. College Student Survey, 1970, 4 (1), 31-32.

Cammer, L. Up from depression. New York: Simon & Schuster, 1969.

Cannon, W. B. The wisdom of the body. New York: Norton, 1932.

Caplan, G. Principles of preventive psychiatry. New York: Basic Books, 1964.

Carpenter, C. R. A field study in Siam of the behavior and social relations of the gibbon, hylobates lar. Comparative Psychology Monograph, 1940, 16, 1-212.

Carranza, E. A study of the impact of life changes on high-school teacher performance in the Lansing school district as measured by the Holmes and Rahe schedule of recent experiences. Unpublished doctoral dissertation, Michigan State University, 1972.

Casey, J. T. Why students drop out: A study of evening college student motivations. Center for the Study of Liberal Education for Adults, 1953, 19.

Cassara, B. A study of various kinds of educational growth in the Goddard college adult degree program. (Doctoral dissertation, Boston University School of Education), Ann Arbor, Mich.: University Microfilms, 1970, No. 70-22, 499.

Cattell, R. B., & Scheier, I. H. The nature of anxiety: A review of thirteen multivariate analyses comprising 814 variables. Psychological Reports, 1958, 4, 351-388.

Chase, C. T. The university freshman dropout. Unpublished manuscript, ERIC Research in Education Abstract ED 003 672, 1965.

Clark, R. A. A trial administration of the comparative guidance and placement program. Unpublished manuscript. ERIC Research in Education Abstract EP 086 292, 1973.

Coelho, G., Hamburg, D., & Murphy, E. Coping strategies in a new learning environment. Archives of General Psychiatry, 1963, 9, 433-443.

Coelho, G., Silber, E., & Hamburg, D. Use of the student-TAT to assess coping behavior in hospitalized normal and exceptionally competent college freshmen. Perceptual and Motor Skills, 1962, 14, 335-365.

Cohen, E. Human behavior in the concentration camp. New York: Norton, 1953.

Conklin, R. C. Differentiating and predictor variables for mature non-matriculant students at the University of Calgary. Unpublished manuscript. Calgary University, Alberta, Department of Educational Psychology, 1970.

Costantini, A. F., Braun, J. R., Davis, J., & Iervolino, A. Personality and mood correlates of schedule of recent experience scores. Unpublished manuscript, University of Connecticut, 1973.

Cunningham, P. M. The effects of self-esteem and perceived program utility on persistence and cognitive achievement in an adult basic education program. Unpublished doctoral dissertation, University of Chicago, 1973.

Davids, A., & Eriksen, C. W. The relationship of manifest anxiety to association productivity and intellectual attainment. Journal of Consulting Psychology, 1955, 19, 219-222.

Dickinson, G., & Verner, C. Attendance patterns and dropouts in night school classes. Adult Education, 1967, 19 (1), 24-33.

Di Salvi, R. D. A remedial program for undergraduate evening students. Adult Education, 1971, 21 (3), 186-195.

Edwards, M. K. Life crisis and myocardial infarction. Unpublished master of nursing thesis, University of Washington, 1971.

Ellefson, J. O. A natural history of gibbons in the Malay peninsula. Unpublished doctoral dissertation, University of California, Berkeley, 1966.

Erikson, E. Childhood and society. New York: Norton, 1963.

Ewigleben, R. The identification and analysis of the factors contributing to the drop-out rate among participants in classes of the Lansing adult school program. Unpublished doctoral dissertation, Michigan State University, 1959.

Ford, S. F. Comparative guidance and placement program: Summary of validity study results for the 1972-73 academic year. Princeton: Educational Testing Service, 1973.

Gardner, R. W., Holzman, P. S., Klein, G. S., Linton, H. B., & Spence, D. P. Cognitive control, a study of individual consistencies in cognitive behavior. Psychological Issues, 1959, 1 (4), 12-23.

George, A. L. Adaptation to stress in political decision making: The individual, small group, and organizational contexts. In G. V. Coelho, D. A. Hamburg & J. E. Adams (Eds.), Coping and Adaptation. New York: Basic Books, 1974.

Glueck, S., & Glueck, E. Predicting delinquency and crime. Cambridge, Mass.: Harvard University Press, 1959.

Grabowski, S. M. Motivational factors of adult learners in a directed self-study bachelor's degree program. (Doctoral dissertation, Syracuse University), Ann Arbor, Mich.: University Microfilms, 1972, No. 72-486.

Groenke, G. R. The relationship of the entrance examination score to grade point average of junior college freshmen when classified by age, sex, and curriculum. (Doctoral dissertation, Arizona State University), Ann Arbor, Mich.: University Microfilms, 1969, No. 70-4858.

Grooms, R. R., & Endler, N. S. Effect of anxiety on academic achievement. Journal of Educational Psychology, 1960, 51, 299-304.

Guilford, J. P., & Fruchter, B. Fundamental statistics in psychology and education (5th ed.) New York: McGraw-Hill, 1973.

Hale, K. R. L. Behaviour and ecology of the wild patas monkey, erythrocebus patas, in Uganda. Journal of Zoology, 1965, 148, 15-87.

Hamburg, D., & Adams, J. E. A perspective on coping behavior. Archives of General Psychiatry, 1967, 17, 277-284.

Hamburg, D. A., Hamburg, B., & deGoza, S. Adaptive problems and mechanisms in severely burned patients. Psychiatry, 1953, 16, 1-20.

Harmon, D. K., Masuda, M., & Holmes, T. H., The social readjustment rating scale: A cross cultural study of western Europeans and Americans. Journal of Psychosomatic Research, 1970, 14, 391-400.

Harris, I. D. Emotional blocks to learning. New York: Crowell Collier, 1961.

Harris, P. The relationship of life change to academic performance among selected college freshmen at varying levels of college readiness. Unpublished doctoral dissertation, East Texas State University, 1972.

Hawkins, D. L. A study of dropouts in an adult basic education program and suggestions for improving the holding power of these programs. (Doctoral dissertation, Indiana University), Ann Arbor, Mich.: University Microfilms, 1968, No. 69-6738.

Henley, A. A survival for college freshmen. Today's Health, 1969, 47 (9), 21-23.

Hinkle, L. E. Studies in human ecology: Factors relevant to the occurrence of bodily illness and disturbance in mood, thought, and behavior in three homogeneous groups. American Journal of Psychiatry, 1957, 114 (3), 212-220.

Holmes, T. H., Joffe, J., Ketcham, J., & Sheehy, T. Experimental study of prognosis. Journal of Psychosomatic Research, 1961, 11, 213-218.

Holmes, T. H., & Masuda, M. Life change and illness susceptibility. In American Association for the Advancement of Science (Ed.), Separation and Depression. Washington: American Association for the Advancement of Science, 1973.

Holmes, T. H., & Rahe, R. H. Booklet for Schedule of Recent Events (SRE). Seattle: University of Washington, 1967.

Holmes, T. H., & Rahe, R. H. The social readjustment rating scale. Journal of Psychosomatic Research, 1967, 11, 213-218.

Holmes, T. S. Adaptive behavior and health change. Unpublished medical thesis, University of Washington, 1970.

Houle, C. Who stays and why. Adult Education, 1964, 14 (4), 225-233.

Hurkamp, R. C. Differences in some initial attitudes of students who complete and students who drop out in the Wellesley, Massachusetts, adult education program. (Doctoral dissertation, Boston University), Ann Arbor, Mich.: University Microfilms, 1968, No. 69-7854.

Janis, I. L. & Rausch, C. N. Selective interest in communications that could arouse decisional conflict: A field study of participants in the draft-resistance movement. Journal of Personality and Social Psychology, 1970, 14, 46-54.

Kidd, J. R. How adults learn. New York: Association Press, 1959.

Killian, W. D. A study of persistence of adult students in the fundamental learning laboratories of the North Carolina community college system. (Doctoral dissertation, University of North Carolina), Ann Arbor, Mich.: University Microfilms, 1969, No. 70-9194.

Knoell, D. A. A critical review of research on the college dropout. In L. Pervin (Ed.) The college dropout and the utilization of talent. Princeton: Princeton University Press, 1966.

Knox, A. B., & Sjogren, D. D. Achievement and withdrawal in university adult education classes. Adult Education, 1965, 15, 74-88.

Komaroff, A. L., Masuda, M., & Holmes, T. H. The social readjustment rating scale: A comparative study of Negro, Mexican and White Americans. Journal of Psychosomatic Research, 1968, 12, 121-128.

Korchin, S., & Ruff, G. Personality characteristics of the Mercury astronouts. In G. H. Grosser, H. Wechsler, & M. Greenblatt (Eds.) The threat of impending disaster: Contributions to the psychology of stress. Cambridge, Mass.: MIT Press, 1964.

Larson, P. Down the up staircase: A study of new career dropouts. Unpublished manuscript, University of Minnesota, 1964.

Lazarus, R. S., Averill, J. R., & Opton, E. M. The psychology of coping; Issues of research and assessment in G. V. Coelho, D. A. Hamburg, & J. E. Adams, Coping and Adaptation, New York: Basic Books, 1974, p. 255.

Lazarus, R. S., Averill, J. R., & Opton, E. M., Jr., Toward a cognitive theory of emotion. In M. B. Arnold (Ed.), Feelings and Emotions. New York: Academic Press, 1970.

Lazarus, R. S., & Opton, E. M. The study of psychological stress: A summary of theoretical formulations and experimental findings. In C. D. Spielberger (Ed.), Anxiety and behavior. New York: Academic Press, 1966.

LeClair, L. V. A study of the relationship of three factors--Perceived need deficiency, importance of need fulfillment, perception of education as a mobility facilitator--to participation in educational activities. (Doctoral dissertation, Michigan State University), Ann Arbor, Mich.: University Microfilms, 1969, No. 70-9584.

Lindemann, E. The timing of psychology. Proceedings of the 6th International Congress of Psychotherapy, 1964, 75-90. (Selected Lectures).

London, J., & Wenkert, R. Leisure style and adult education. Adult Education, 1969, 20 (1), 3-22.

Londoner, C. Perservance versus nonperseverance patterns among adult high school students. Adult Education, 1972, 22 (3), 179-195.

Malloy, J. The prediction of college achievement with the Life Experience Inventory. Educational and Psychological Measurement, 1955, 15, 170-180.

Mandler, G., & Watson, D. L. Anxiety and the interruption of behavior. In C. D. Spielberger (Ed.) Anxiety and behavior. New York: Academic Press, 1966.

Mann, L., & Janis, I. L. A follow-up study on the long-term effects of emotional role playing. Journal of Personality and Social Psychology, 1968, 8, 339-342.

Masuda, M., & Holmes, T. H. The social readjustment rating scale: A cross cultural study of Japanese and Americans. Journal of Psychosomatic Research, 1967, 11, 227-237.

McNemar, Q. Psychological Statistics (4th ed.) New York: John Wiley & Sons, 1969.

Mechanic, D. Students under stress. New York: Free Press, 1962.

Mechanic, D. Social structure and personal adaptation: Some neglected dimension. In G. V. Coelho, D. A. Hamburg, & J. E. Adams (Eds.) Coping and Adaptation. New York: Basic Books, 1974.

Mezirow, J. Toward a theory of practice in education with particular reference to the education of adults. Adult Education, 1971, 21 (3), 135-147.

Miller, G. A. The psychology of communication. New York: Basic Books, 1967.

Moore, A. B. Noncognitive attributes of participants in selected adult basic education programs. Unpublished manuscript. ERIC Research in Education Abstract ED 057 366.

Mullally, R. R. A study to determine the dropout rate and reasons why academically able students withdrew from the University of Wyoming during the period, the beginning of fall semester 1963 to the beginning of fall semester 1964. Unpublished doctoral dissertation, University of Wyoming, 1967.

Murphy, L. B. Symposia presented at the meetings of the American Psychological Association, 1954, 1955.

Murphy, L. B. The widening world of childhood: Paths toward mastery. New York: Basic Books, 1962.

Nichols, R. C. Non-intellective predictors of achievement in college. Educational and Psychological Measurement, 1966, 26, 866-915.

Parsons, T. The social system. Glencoe, Ill.: The Free Press, 1951.

Perry, L. C. Elements contributing to the persistence of registered nurses who completed baccalaureate requirements at Indiana University as a supplement to the basic nursing program. Adult Education, 1968, 18 (4), 272-279.

Pervin, L. A. The college dropout and the utilization of talent. Princeton: Princeton University Press, 1966.

Phillips, L. Human adaptations and its failures. New York: Academic Press, 1968.

Piaget, J. The origins of intelligence in children. New York: International Universities Press, 1952.

Preas, N. B. A study of the relationship between selected variables and academic achievement in a community college. (Doctoral dissertation, North Carolina State University), Ann Arbor, Mich.: University Microfilms, 1969, No. 70-9214.

Rahe, R. H. Life change measurement as a predictor of illness. Proceedings of the Royal Society of Medicine, 1968, 61, 1124-1126.

Rahe, R. H., & Lind, E. Psychosocial factors and sudden cardiac death: A pilot study. Journal of Psychosomatic Research, 1971, 5, 19-24.

Rahe, R. H., Meyer, M., Smith, M., Kjaer, G., & Holmes, T. H. Social stress and illness onset. Journal of Psychosomatic Research, 1964, 8, 3-5.

Rapoport, R., & Rapoport, R. N. New light on the honeymoon. Human Relations, 1964, 17, 33-56.

Rheingold, H. The modification of social responsiveness in institutional babies. Monographs of the Society for Research in Child Development, 1956, 21 (Pt. 2).

Riggs, C. L. The relationship of anxiety adaptation to aptitude, self concept and scholastic achievement. Unpublished doctoral dissertation, University of Denver, 1961.

Rogers, C. R. A theory of therapy, personality and interpersonal relationships as developed in a client centered framework. In S. Koch (Ed.), Psychology; A study of science. New York: McGraw Hill, 1959.

Rokeach, M. The nature and meaning of dogmatism. Psychological Review, 1954, 61, 194-204.

Ross, H., & Hensley, J. The relationship between anomia and participation in adult basic education. Paper presented at the Adult Education Research Conference, New York City, February, 1971.

Sainty, G. E. Predicting dropouts in adult education courses. Adult Education, 1971, 21 (4), 223-230.

Sanford, N. Loss of talent. In F. F. Harcleroad (Ed.), Issues of the seventies, San Francisco: Jossey-Bass, 1970.

Sarason, I. G. Relationship of anxiety and lack of defensiveness to intellectual performance. Journal of Consulting Psychology, 1956, 20, 220-223.

Sarason, I. G. Test anxiety, general anxiety, and intellectual performance. Journal of Consulting Psychology, 1957, 21, 485-490.

Schultz, R. E., & Calvin, A. D. A failure to replicate the findings of a negative correlation between manifest anxiety and ACE scores. Journal of Consulting Psychology, 1955, 19, 223-224.

Sheffield, S. B. The orientations of adult continuing education learners. In Solomon, ed. The Continuing Learner. Chicago: Center for the Study of Liberal Education for Adults, 1964, pp. 1-22.

Silber, E., Hamburg, D. A., Coelho, G. V., Murphey, E. B., Rosenberg, M., & Pearlin, L. D. Adaptive behavior in competent adolescents: Coping with the anticipation of college. Archives of General Psychiatry, 1961, 5, 354-365.

Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. State-trait anxiety inventory manual. Palo Alto: Consulting Psychologists Press, 1970.

Stubblefield, R. Children's emotional problems aggravated by family moves. American Journal of Orthopsychiatry, 1955, 25, 120-126.

Taylor, J. A. A personality scale for manifest anxiety. Journal of Abnormal and Social Psychology, 1953, 48, 285-290.

Teichert, R. H. Identification of characteristics that differentiate participants in a university adult evening school program from non-participants. (Doctoral dissertation, University of Nebraska), Ann Arbor, Mich.: University Microfilms, 1969, No. 69-22, 300.

Tidewater Community College Catalog, 1974-75.

Toffler, A. Future shock. New York: Bantam Books, 1970.

Tollefson, D. J. The relationship between the occurence of fractures and life crisis events. Unpublished master of nursing thesis, University of Washington, 1972.

Tooley, K. Expressive style as a developmental index in late adolescence. Journal of Projective Techniques and Personality Assessment, 1967, 3-59.

Uhlenhuth, E. H., & Paykel, E. S., Symptom intensity and life events. Archives of General Psychiatry, 28, 1973, 473-477.

Ulmer, R. C., & Verner, C. Factors affecting attendance in a junior college adult program. Adult Education, 1963, 13, 153-158.

Webb, E. J., Campbell, D. T., Schwartz, R. D., & Sechrest, L. Unobtrusive measures: Nonreactive research in the social sciences. Chicago: Rand McNally, 1966.

Welsh, G. S. Factor dimensions A and R. In G. S. Welsh & W. G. Dahlstrom (Eds.), Basic Readings on the MMPI in psychology and medicine. Minneapolis: University of Minnesota Press, 1956.

Wilder, R., Hubble, J., & Kennedy, C. E. Life change and infectious mononucleosis. Journal of the American College Health Association, 1971, 20, 115-119.

Wilkins, J. G. Characteristics of mid-career women enrolled in programs at the University of Pittsburgh through the office of continuing education for women from 1964 to 1968. (Doctoral dissertation, University of Pittsburgh), Ann Arbor, Mich.: University Microfilms, 1968, No. 70-15, 790.

Wisconsin Departmental Research Center. Survey of adult education participants: Vocational and University of Wisconsin extension students. Unpublished manuscript, ERIC in Education Abstract ED 037 545, 11969.

Wold, D. A. The adjustment of siblings to childhood leukemia. Unpublished medical thesis, University of Washington, 1968.

Wolfenstein, M. Disaster: A psychological essay. New York: Free Press, 1957.

Woon, T. The Social Readjustment Rating Scale: A cross cultural study of Malaysians and Americans. Journal of Cross Cultural Psychology, 1971, 2, 373-386.